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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/129,113	08/04/1998	JAMES F. CAMERON	50349	4003

53884 7590 12/31/2007

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EXAMINER	
WALKE, AMANDA C	
ART UNIT	PAPER NUMBER
1795	

MAIL DATE	DELIVERY MODE
12/31/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	09/129,113	CAMERON ET AL.	
	Examiner	Art Unit	
	Amanda C. Walke	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *43,45-49 and 51-54* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *43,45-49 and 51-54* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/11/2007 has been entered.

Claim Rejections - 35 USC § 103

2. Claims 43, 45-49, and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over SINTA et al. (US 5,731,364) in view of Doessel et al (4,946,759).

a. SINTA et al teach a photoresist composition comprising a resin binder and a photoactive component, the photoactive component comprises a plurality of distinct aryl sulfonium photoactivatable compounds (claim 1). The photoactive cation is preferably a di-cation compound, particularly compound of formula VI wherein R is the same or different and is a substituted or unsubstituted aryl group and each Q is a sulfonate or carboxylate anion (column 3, lines 24-38). When substituted, the R groups are substituted at one or more available positions by halogens, alkyl groups, alkoxy groups, alkenyl groups, aryl groups (column 5, lines 39-60). Suitable counter ions are given in column 4, line 28 - column 6, line 51, which include benzylsulfonate, C_{1-12} alkyl sulfonates such as mesylate, aryl tosylates and halogenated alkyl sulfonates such as triflate. The photoactive sulfonium compound meets the present limitations for the sulfonium photoacid generator. The resin binder has functional groups that impart alkaline aqueous developability to the resist composition. Preferable resin binders comprise

polar functional groups such as hydroxyl or carboxylate (column 7, line 38 - 50). A substituted ester moiety, taught as a suitable acid liable group of the resin is described in column 9, lines 23-27. Preferred acid labile moieties are acetate groups including t-butyl acetate, acetals and ketals (column 9, lines 44 - 49). The resin binder comprising an acid liable group meets the present limitations for the component that comprises photoacid-labile groups. A resist can be prepared by dissolving the components of the photoresist in a suitable solvent such as propylene glycol monomethyl ether and lactates such as ethyl or methyl lactate (column 11, lines 10-26). SINTA et al. further teach that the photoresists may be applied to a substrate in liquid form (column 11, lines 27-32).

b. Therefore it would have been *prima facie* obvious to make a photosensitive composition comprising a binder resin with acid labile groups and a di-cation sulfonium photoacid generator comprising a sulfonate counter anion and to coat the composition on a microelectronic wafer to obtain a photoresist with excellent lithographic properties that can be used in accordance with known procedures based on the teachings of SINTA et al. (column 3, lines 38-42 & column 11, lines 27-41).

Solvents such as propylene glycol monomethyl ether, glycols, and lactates may be employed as well as other known resist solvents, however, propylene glycol monomethyl ether acetate is not specifically mentioned.

Doessel et al is just one of many examples teaching that positive resist solvents that are well known in the art include glycols, ketones, lactates, propylene glycol monomethyl ether and propylene glycol monomethyl ether acetate (column 7, paragraph 3).

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the material of the reference choosing to employ the solvent of Doessel et al.

Response to Arguments

3. Applicant's arguments filed 10/11/2007 have been fully considered but they are not persuasive. Applicant has argued that the Sinta reference fails to teach a triphenyl sulfonium (one of the most widely known and used photoacid generators), having a counter ion that is an aryl or alicyclic sulfonate substituted with an electron withdrawing group. Sinta clearly describes triphenyl sulfonium PAGs having counter ion such as arylsulfonates having F atoms, which are electron withdrawing groups (tifluoromethylbenzenesulfonate; example 1d or acetamidobenzenesulfonate;column 4, line 55, amongst others see columns 4 and 5). Applicant has pointed to the examples of the specification to demonstrate that unexpected results are obtained by the counter ions of the invention however, the comparative examples compare triphenyl sulfonium compounds to di-phenyl, and demonstrate that photospeed over time diminishes for the compositions comprising the di-phenyl compounds, but the results are unpersuasive,. The materials of the reference employ the triphenyl sulfonium compounds and teach that the lithographic properties (which includes, photospeed, sensitivity, storage and light stability, etc.) of the composition including *photospeed* are "excellent" and improved by employing the photoacid generators of the reference thus, the examples of the instant specification are showing the expected result based upon the teachings of the reference (abstract, column 1, lines 9-52). Therefore the rejections based upon Sinta are maintained.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337. The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Amanda C Walke/
Amanda C Walke
Primary Examiner
Art Unit 1795

ACW
December 26, 2007